



M10470103
April
6134

Corporate Office

10808 S. River Front Parkway, Suite 200

South Jordan, UT 84095

Office: 801.878.8100

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RECEIVED

JUL 02 2014

DIV. OF OIL, GAS & MINING

July 2, 2014

April Abate

Department of Natural Resources, Division of Oil Gas and Mining

1594 West North Temple, Suite 1210

P.O. Box 145801

Salt Lake City, UT 84114-5801

Subject: MR-REV for Southwest #1 – M0470103 – Small Mining Operations Permit
Amendment – Application for Small Mining Operations Permit Bond Release

Dear Ms. Abate:

Red Leaf Resources, Inc. (Red Leaf), hereby requests that our Small Mining Operations Permit (S0470102) be added to our Large Mining Operation (LMO) Notice of Intention (NOI) (M0470103). Red Leaf also submits herewith an application for release of the Small Mining Operation Permit bond.

The MR-REV with replacement and additional pages for this request is attached, along with the Form MR-Site/Bond Release application and its associated attachments. Redlined replacement pages are also provided for informational purposes.

Should you have any questions about this request, please contact me at 801-878-8100.

Sincerely,

Jay K. Vance, P.E.

Manager, Environmental & Permitting

Enclosures

c: John Blake, SITLA (School & Institutional Trust Lands Administration)

Application for Mineral Mine Plan Revision or Amendment

Operator: <u>Red Leaf Resources, Inc.</u>	
Mine Name: <u>Southwest #1</u>	File Number: M/ <u>047</u> / <u>0103</u>

Provide a detailed listing of all changes to the mining and reclamation plan that will be required as a result of this change. Individually list all maps and drawings that are to be added, replaced, or removed from the plan. Include changes of the table of contents, section of the plan, pages, or other information as needed to specifically locate, identify and revise or amend the existing Mining and Reclamation Plan. **Include page, section and drawing numbers as part of the description.**

DETAILED SCHEDULE OF CHANGES TO THE MINING AND RECLAMATION PLAN			DESCRIPTION OF MAP, TEXT, OR MATERIALS TO BE CHANGED
<input type="checkbox"/> ADD	<input checked="" type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Cover page, page vi, page 1, page 20, and page 21
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Appendix X – Small Mining Permit Activity Locations
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Appendix X, Table X-1 – SMO Permit Activities (former)
<input checked="" type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	Appendix X, Figure X-1 –
<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	
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<input type="checkbox"/> ADD	<input type="checkbox"/> REPLACE	<input type="checkbox"/> REMOVE	

I hereby certify that I am a responsible official of the applicant and that the information contained in this application is true and correct to the best of my information and belief in all respects with the laws of Utah in reference to commitments and obligations, herein.

Jay Vance
Print Name

Jay Vance, Manager, Environmental & Permitting
Sign Name, Position

Date

Return to:

State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801
Phone: (801) 538-5291 Fax: (801) 359-3940

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FOR DOGM USE ONLY:
File #: M/ _____ / _____
Approved: _____
Bond Adjustment: from (\$) _____
to \$ _____

Redlines for MR-REV
Southwest #1 – M0470103

Red Leaf Resources, Inc.

July 2, 2014

Cover page

Page vi

Page 1

Page 20

Page 21

Notice of Intention

To

Commence Large Mining Operations

Red Leaf Resources, Inc.

Seep Ridge Block: Southwest #1 Mine



Submitted by:

Red Leaf Resources, Inc.
10808 South River Front Parkway, Suite 200
South Jordan, UT 84095-5956

To:

Utah Division of Oil Gas and Mining
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114-84093

Prepared with the assistance of:

JBR Environmental Consultants, Inc.
8160 So. Highland Dr.
Sandy, UT 84093

Norwest Corporation
136 East South Temple, 12th Floor
Salt Lake City, UT 84111

September 1, 2011

**Notice of Intention to Commence Large Mining Operations
Red Leaf Resources, Inc.
Seep Ridge Block: Southwest #1 Mine**

APPENDIX I: Norwest Geotechnical Analysis

**APPENDIX J: Draft Health Safety Security and Environment Management
Policy**

APPENDIX K: Water Management Strategy: Executive Summary

APPENDIX L: Cultural Resources Report: Executive Summary

APPENDIX M: Soil Sampling

**APPENDIX N: Department of Environmental Quality Division of
Water Quality Groundwater Permit**

**APPENDIX O: County Permits: Building Permit and Road Maintenance
Agreement**

**APPENDIX P: Department of Wildlife Resources and DWR Conservation
Data Center Letters and Emails**

APPENDIX Q: Operations Practices

APPENDIX R: Letter Regarding Bentonite Amended Soil (BAS) Analysis

APPENDIX S: Early Production System (EPS) Capsule

APPENDIX T: Selected Oil and Gas Well Logs Near the Project Area

**APPENDIX U: Additional Information about Area Cross Sections and
Fence Diagrams**

APPENDIX V: Summary of Compliance Monitoring Requirements

APPENDIX W: Exploration Permit Activity Locations

APPENDIX X: Small Mining Operation Permit Activity Locations

Notice of Intention to Commence Large Mining Operations

Red Leaf Resources, Inc.

Southwest #1 Project, Uinta Basin Introduction and Project Background

Red Leaf Resources, Inc. ("RLR" or "Red Leaf") holds oil shale mineral leases on 16,838 acres on School and Institutional Trust Land properties in the Uinta Basin.

RLR has previously performed process testing under its Exploration Permit #E/047/0055.

~~Exploration activities included a core drilling program for resource assessment. Total acreage of the exploration activity was 5.8 acres. This acreage incorporated 4.7 acres for excavation, process testing, and roads. An additional 1.1 acres was temporarily disturbed for purposes of drilling and resource evaluation during June 2010. All drill hole locations were reclaimed by August 2010.~~ RLR's Exploration permit was converted to a Small Mining Operation (SMO) in January 2011, with final approval for operations on January 27, 2011. ~~The SMO activities encompass 4.97 acres for mining, process operations, and road access.~~ Activities associated with this SMO permit were incorporated into this LMO in July 2014, and the SMO permit was terminated. For information purposes, SMO areas are outlined in Appendix X, Small Mining Operation Permit Activity Locations.

RLR filed for an exploration permit, Southwest #2, E/047/0062, on March 24, 2011 for purposes of conducting additional exploration activities. Activities associated with this exploration permit were incorporated into this LMO NOI in April 2014, and the exploration permit was terminated. For information purposes, the disturbed areas under E/047/0062 for Southwest #2 and related holes are outlined in Appendix W, Exploration Permit Activity Locations.

It is now RLR's intention to expand activities at the Southwest #1 small mine site and convert it to a Large Mining Operation (LMO) as identified in this NOI. The disturbed area under E/047/0062 will also be included under the planned Large Mine Operations.

The location of RLR's Southwest #1 project includes acreage held in its SITLA Mineral Leases (ML) 50150 and 43374. The acreage associated with this mine plan from ML 50150 includes

Water Discharge

There are no plans to have process water discharged from this property.

Storm water discharge will be managed according to the Drainage Control Plan included in **APPENDIX E**. Upland water will either be diverted around the site or stored briefly in small sumps. Water will be actively pumped from the upland sumps for operational use, to maintain adequate storage for a 10-year 24-hour storm event, consistent with good engineering practices for similar structures in this region. The sump embankments will be protected through the use of an emergency spillway sized to handle the 100-year 24-hour storm. Upland diversions will also be sized for the 100-year 24-hour storm with a 0.5-foot freeboard to ensure adequate protection of the mine pit in the event of sediment or debris deposition during a large storm. Reclamation sumps and Ponds 4 and 5 will contain the water within the permit area. Storm water from disturbed areas will be controlled using stormwater sumps and other devices to prevent discharges from the site~~discharged under a UT PDES permit from Ponds 1, 2, and 3. Any storm water discharges will meet the applicable effluent requirements for the site.~~

Electrical Power Supply

Initially, Red Leaf will use high efficiency generators to provide power to the project. However, it is anticipated that power from the electrical grid will satisfy long-term power demand for the project. See Appendix K for additional information about anticipated electrical power production and use. ~~The pumping systems for the network of water wells will utilize solar panels and battery storage. Solar design is incorporated as part of Red Leaf's water production plan. (See APPENDIX K—Water Management Strategy).~~

Water Supply and Waste Water

Red Leaf's initial net water use estimates for the project ~~is~~ are outlined in Appendix K, Water Management Strategy. Estimates for water will be adjusted and updated as necessary following

~~completion of initial capsule operations, as additional information becomes available.
conservatively measured to be 0.47 barrels of water per barrel of oil produced. The Ecoshale In-Capsule Technology does not require water, but
water is needed to meet on-site worker demand, dust control and production of BAS for the
integrated environmental management plan for the project.~~

Water needs will be met with on-site water production associated with operation of the Eco-Shale In-Capsule process and from a supplemental network of water wells with onsite storage to manage spikes in water demand. Design and location of the water strategy facilities is included as part of Red Leaf's water management strategy (See **APPENDIX K--Water Management Strategy**).

Red Leaf has access to water rights sufficient to meet requirements for operations. All points of diversion and withdrawals will be covered by water rights held by Red Leaf and registered with the Utah State Engineer's Office. Currently, Red Leaf has exercised 500 acre feet of water rights and has applied to register these with the State Engineer (49-2330). Red Leaf holds additional water rights options that can be converted to firm water leasing rights as required by operations.

106.3: Estimated Acreage

Disturbance and Reclamation Summary

At the onset of mining, soil will be salvaged and stockpiled for later use during reclamation. Some overburden material will need to be stockpiled as well to create adequate space required for capsule construction which occurs on the floor of the pit once ore has been mined. Once capsule construction is underway, the mining and material movement and capsule construction and ore recovery reach a steady-state that continues until the mine nears completion. The table below provides a summary by year of acres disturbed exclusive of reclamation. Year 1 shows the disturbance of more acres than subsequent years because pre-stripping and stockpiling is required. By year 20, pre-stripping on all mine areas has been completed.

Notice of Intention

To

Commence Large Mining Operations

Red Leaf Resources, Inc.

Seep Ridge Block: Southwest #1 Mine



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To:

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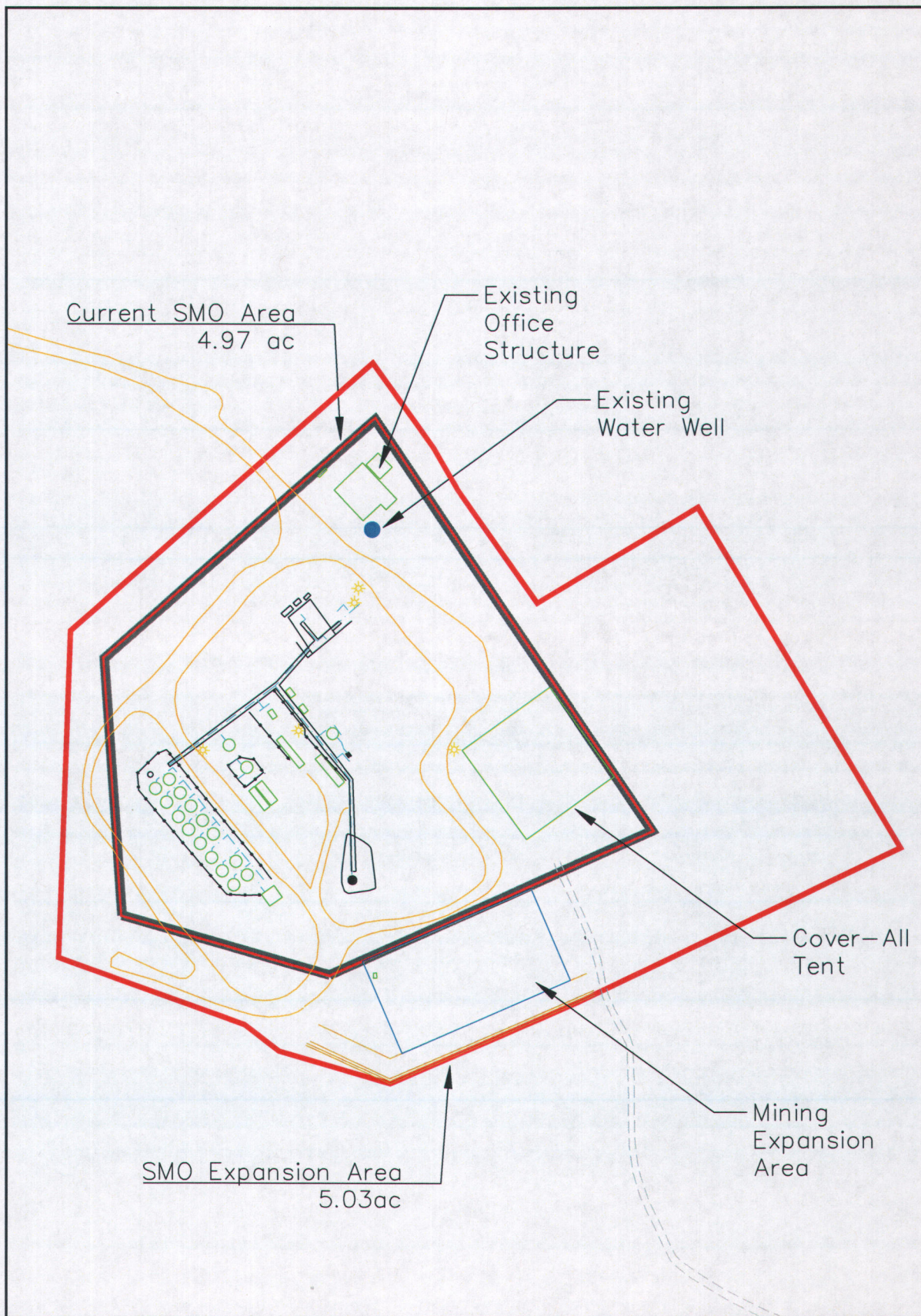
Appendix X

Small Mining Operation Permit Activity Locations

Table X-1 and Figure X-1, attached to and made part of this appendix, outline locations and activities associated with Red Leaf's former exploration permit, Southwest #1, S/047/0102.

Table X-1 - Small Mining Operation Permit Activities (Former)

Description (Demo cost Other cost covered through site bond)	Materials	Unit	Length	Width	Height	Unit	Quantity	Unit
Office Structure	Wood metal single story house structure	Ea				Ea	1	Ea
Office Structure addition	Wood metal mobile home trailer	Ea	50	10	8	Ea	4000	Ea
Pug Mill Plant	Steel Material Handling-portable	Ea	50	10	8	Ea	4000	Ea
Crushing Plant	Steel Material Handling-portable	Ea	50	10	8	Ea	4000	Ea
Screening Plant	Steel Material Handling-portable	Ea	50	10	8	Ea	4000	Ea
Footings	Concrete	Ea				Ea	30	Ea
Generator Set	Steel Building-Large	/CF	20	8	10	ft	1600	CF
Burner-Blower System	Steel Building-Large	/CF	40	10	20	ft	8000	CF
Overhead Condensate system	Steel Building-Large	/CF	10	4	8	ft	320	CF
Motor control conex trailer	Steel Building-Large	/CF	40	8	8	ft	2560	CF
Conex Trailer	Steel Bldg-Large	/CF	40	8	8			
Storage tanks								
Removal of Tanks (above ground)	9000 gal to 12000 gal tank	Ea				Ea	19	Ea
Remove Sludge and Water	9000 gal to 12000 gal tank	Ea				Ea	19	Ea
Haul Tank to certified dump	8000 gal+, 100 mile rt	Ea				Ea	19	Ea
Cover-all tent building	Fabric.Steel, Min	Ea						
no interior walls deduct 50%	%							
Instrument air building	Steel Building-Large	/CF	40	8	8	ft		
Weather station	Steel Building-Large	/CF	8	8	40	ft	2560	
Septic Tank	Pre-cast 100-1250 gal	Ea				Ea	1	Ea
Misc. Pipes	Steel 6"-10"	/CF				ft	300	Ft
Equipment's Disposal Cost								
Weight of Debris Demolished						tons		
Haul to recycling Center	Dump 16 ton payload--Excl whole bldgs	CY				CY		
Sub-total Structures								
Indirect Cost								
Contingency @ 5%	Demolition overhead cost							
Project Management @ 5%	Demolition overhead cost							
Water Well								
900' @ < 7" diameter								
General Site for SMO								
Standard site cost for 10 Acres								
Total Site Bond								
Concrete Demolition	No concrete floors or structures							
Demolition Cost								
Concrete's Vol. Demolished								
Loading Cost								
Transportation Cost								
Disposal Costs								
Subtotal								
Concrete Demolition								
Demolition Cost								
Concrete's Vol. Demolished								
Loading Cost								
Transportation Cost								
Disposal Costs								
Subtotal								
Total								



LEGEND

- SMO Expansion Boundary
- Existing SMO Boundary
- Existing Buildings
- Existing Roads
- Existing Jeep Road

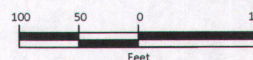


FIGURE X-1

ECOBHALE TECHNOLOGY	REDleaf RESOURCES
Red Leaf Resources Southwest #1 S/047/0102 Site Detail Map	
DATE: 07/02/14 FILE: SMO Expansion Area Figure X-1 Site Detail Map	SCALE: NOTED
NORWEST CORPORATION	